



# MSMR

## Medical Surveillance Monthly Report

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Army Medical Surveillance Activity

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*Data in the MSMR are provisional, based on reports and other sources of data available to the Army Medical Surveillance Activity. Notifiable events are reported by date of onset (or date of notification when date of onset is absent). Only cases submitted as confirmed are included.*

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Supplement #1

## **Update: Human Immunodeficiency Virus, Type 1 (HIV-1), Antibody Screening Among Active and Reserve Component Soldiers and Civilian Applicants for Military Service, 1985-1999**

Since October 1985, all civilian applicants for US military service have been screened for antibodies to human immunodeficiency virus, type 1 (HIV-1), during preinduction medical examinations at Military Entrance Processing Stations (MEPS). In addition, since 1986, all members of the active and reserve components of the US Armed Forces have been periodically screened to detect HIV-1 infections. This report summarizes results of routine screening for HIV-1 antibodies among soldiers and civilian applicants for US military service.

**Methods:** For active, reserve, and National Guard soldiers, new HIV-1 infections were included in rate calculations when records of each individual's first HIV-1 positive test exactly matched identifying information on contemporaneous component-specific personnel files. Denominators for calendar-year-specific rate calculations were the numbers of individuals on component-specific personnel files that were tested at least once during each year of interest. Annual rates of HIV-1 detection among civilian applicants for service were calculated by dividing the number of applicants with first positive HIV-1 tests during specific calendar years by the total number of applicants tested during the years.

**Active duty soldiers:** During 1998 and the first half of 1999, 78 active duty soldiers (68 males, 10 females) were diagnosed with HIV-1 infections during routine screening. Rates of diagnoses of new HIV-1 infections in 1998 (0.21 per 1,000) and in the first half of 1999 (0.14 per 1000) continued the trend of slow decline that has characterized the 1990s (table S1). The trend among male soldiers closely reflected the overall trend, while among females, rates of new diagnoses remained relatively stable throughout the decade (1988-1998, annual rates, mean: 0.13 per 1000, range: 0.06-0.18; new diagnoses per year, 6.3, range: 3-9) (table S1, figure S1). The slow but persistent decline among males and the relative stability among females resulted in the near convergence of gender-specific rates in 1998 and 1999 (figure S1).

Since routine HIV-1 antibody testing began, 2,537 soldiers have been diagnosed with HIV-1 infections. Approximately one of nine (n=295, 11.6%) remain on active duty. Fewer than 2% of soldiers diagnosed in 1985-6 but more than 80% of those diagnosed in 1998 were still on active duty in 1999 (table S1).

*Article continued on page 11*

*Tables and figures continued on page 8*

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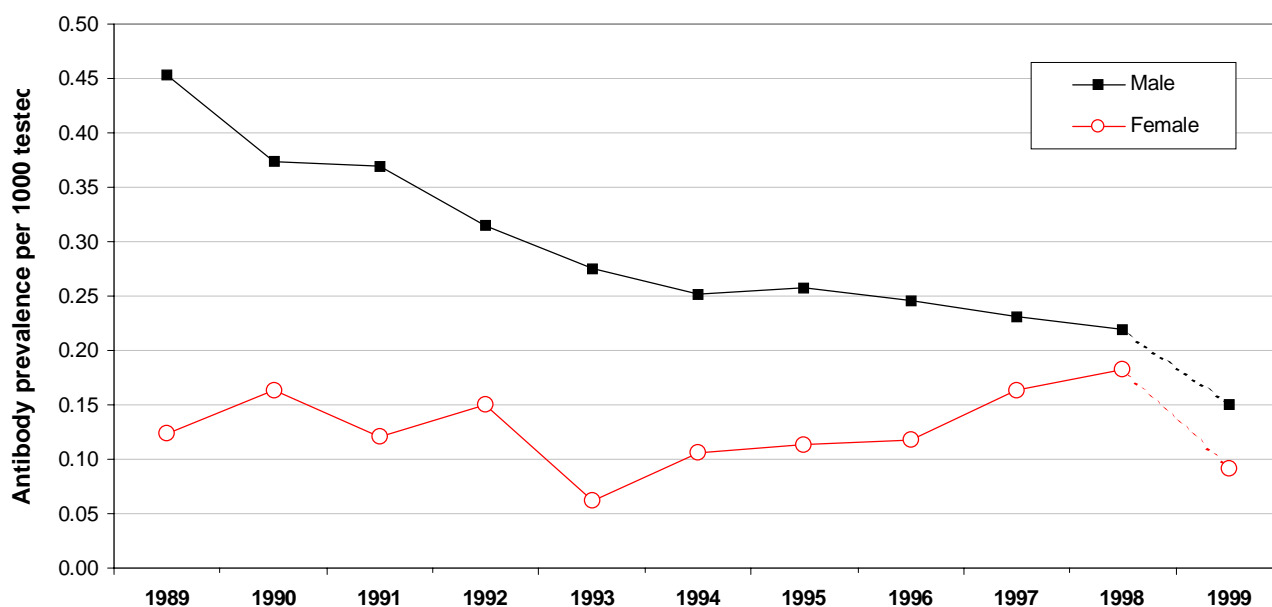
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*Views and opinions expressed are not necessarily those of the Department of the Army.*

**Table S1. Rates of new diagnoses of HIV-1 infections, Army active duty, 1985/86 - 1999\***

Year	Total HIV Tests	Total Persons Tested	Males Tested	Females Tested	Total Newly Identified HIV Positives	Newly Identified HIV Positive Males	Newly Identified HIV Positive Females	Total Rate per 1000 tested	Male Rate per 1000 tested	Female Rate per 1000 tested	HIV Positives Currently on Active Duty
1985/86	387,777	362,699	324,087	38,612	921	877	44	2.54	2.71	1.14	17
1987	461,102	349,981	313,771	36,210	393	378	15	1.12	1.20	0.41	7
1988	445,907	380,049	334,091	45,958	194	187	7	0.51	0.56	0.15	5
1989	486,211	403,839	355,458	48,381	167	161	6	0.41	0.45	0.12	8
1990	532,889	440,070	384,984	55,086	153	144	9	0.35	0.37	0.16	9
1991	478,453	395,884	346,233	49,651	134	128	6	0.34	0.37	0.12	10
1992	530,975	427,657	374,379	53,278	126	118	8	0.29	0.32	0.15	20
1993	457,221	368,803	320,224	48,579	91	88	3	0.25	0.27	0.06	20
1994	417,636	340,842	293,778	47,064	79	74	5	0.23	0.25	0.11	21
1995	385,887	316,044	271,876	44,168	75	70	5	0.24	0.26	0.11	39
1996	344,368	285,917	243,589	42,328	65	60	5	0.23	0.25	0.12	33
1997	330,452	277,118	234,381	42,737	61	54	7	0.22	0.23	0.16	39
1998	329,317	275,895	231,997	43,898	59	51	8	0.21	0.22	0.18	48
1999	144,558	134,732	112,947	21,785	19	17	2	0.14	0.15	0.09	19
<b>Total</b>	<b>5,732,753</b>	<b>4,759,530</b>	<b>4,141,795</b>	<b>617,735</b>	<b>2,537</b>	<b>2,407</b>	<b>130</b>				<b>295</b>

\* through 30 June 1999

**Figure S1. Rates of new diagnoses of HIV-1 infections, Army active duty, 1989 - 1999\***

**TABLE I. Selected sentinel reportable diseases, US Army medical treatment facilities\*  
June, 1999**

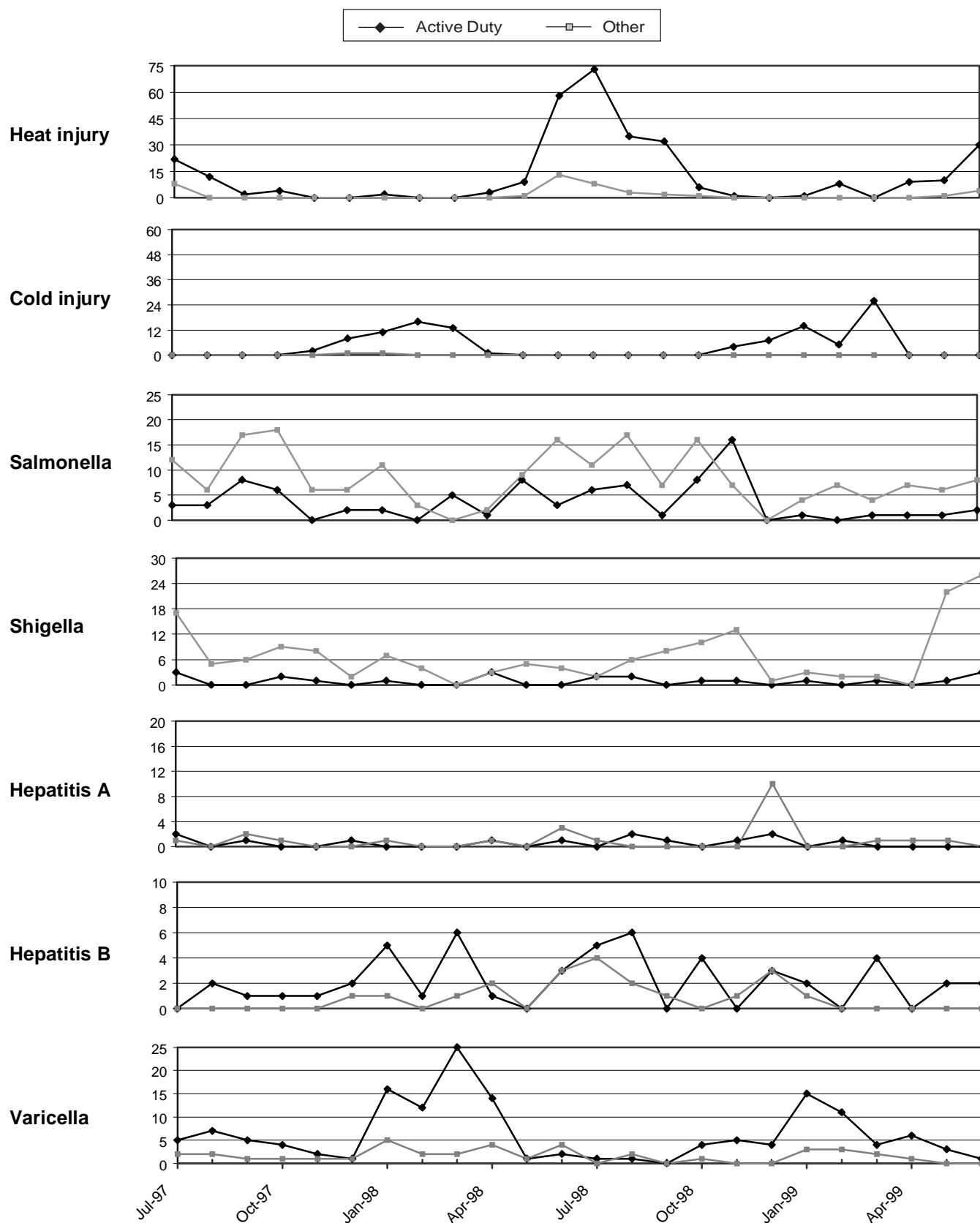
Reporting MTF/Post**	Total number of reports submitted June, 1999	Environmental Injuries		Viral Hepatitis		Salmonellosis		Shigella		Varicella	
		Active Duty				Active Duty	Other	Active Duty	Other	Active Duty	Other Adult
		Heat	Cold	A	B						
		Cum. 1999	Cum. 1999	Cum. 1999	Cum. 1999	Cum. 1999	Cum. 1999	Cum. 1999	Cum. 1999	Cum. 1999	Cum. 1999
NORTH ATLANTIC RMC											
Walter Reed AMC	17	0	0	1	0	0	0	0	0	2	0
Aberdeen Prov. Ground, MD	1	0	0	0	0	0	0	0	0	1	0
FT Belvoir, VA	20	0	0	1	0	0	5	0	1	0	0
FT Bragg, NC	123	26	8	0	0	2	8	0	0	1	0
FT Drum, NY	9	3	15	0	0	0	0	0	0	5	1
FT Eustis, VA	16	0	1	0	1	1	3	0	0	1	0
FT Knox, KY	11	0	1	0	0	0	1	0	0	1	0
FT Lee, VA	13	0	0	0	0	0	0	0	0	0	0
FT Meade, MD	20	0	0	0	0	0	0	0	0	1	0
West Point, NY	7	0	0	0	0	0	0	0	0	0	1
GREAT PLAINS RMC											
Brooke AMC	4	0	0	2	3	0	2	0	4	1	1
Beaumont AMC	14	0	0	0	0	0	1	0	0	2	0
FT Carson, CO	72	0	2	0	1	0	4	0	0	1	0
FT Hood, TX	65	1	0	0	1	1	0	0	1	2	0
FT Huachuca, AZ	7	0	0	1	0	0	0	0	0	0	0
FT Leavenworth, KS	0	0	0	0	0	0	0	0	0	0	0
FT Leonard Wood, MO	10	2	3	0	1	0	1	0	0	5	4
FT Polk, LA	6	0	0	0	0	0	0	0	0	0	0
FT Riley, KS	31	0	1	0	0	0	0	0	0	0	0
FT Sill, OK	14	1	0	0	6	0	0	0	0	6	0
SOUTHEAST RMC											
Eisenhower AMC	25	1	0	0	2	0	0	0	0	0	1
FT Benning, GA	39	23	0	1	0	1	4	1	1	1	0
FT Campbell, KY	83	3	2	0	0	1	8	6	47	0	1
FT Jackson, SC	24	0	0	0	0	0	0	0	0	4	0
FT McClellan, AL	0	0	0	0	0	0	0	0	0	0	0
FT Rucker, AL	7	1	0	0	0	0	0	0	0	0	0
FT Stewart, GA	0	1	0	0	0	0	1	0	0	4	0
WESTERN RMC											
Madigan AMC	48	0	0	1	0	0	5	0	1	0	0
FT Irwin, CA	13	0	0	0	2	0	0	0	0	0	0
FT Wainwright, AK	11	0	42	0	1	0	0	0	0	2	0
OTHER LOCATIONS											
Tripler	0	0	0	0	0	1	2	0	1	0	0
Europe	22	0	3	0	4	3	1	1	0	9	0
Korea	52	0	8	0	14	0	0	0	0	0	0
Total	784	62	86	7	36	10	46	8	56	49	9

\* Based on date of onset.

\*\* Reports are included from main and satellite clinics.

Date of Report: 7-Jul-99

**FIGURE I. Selected sentinel reportable diseases, US Army medical treatment facilities\***  
**Cases per month, Jul 97 - Jun 99**



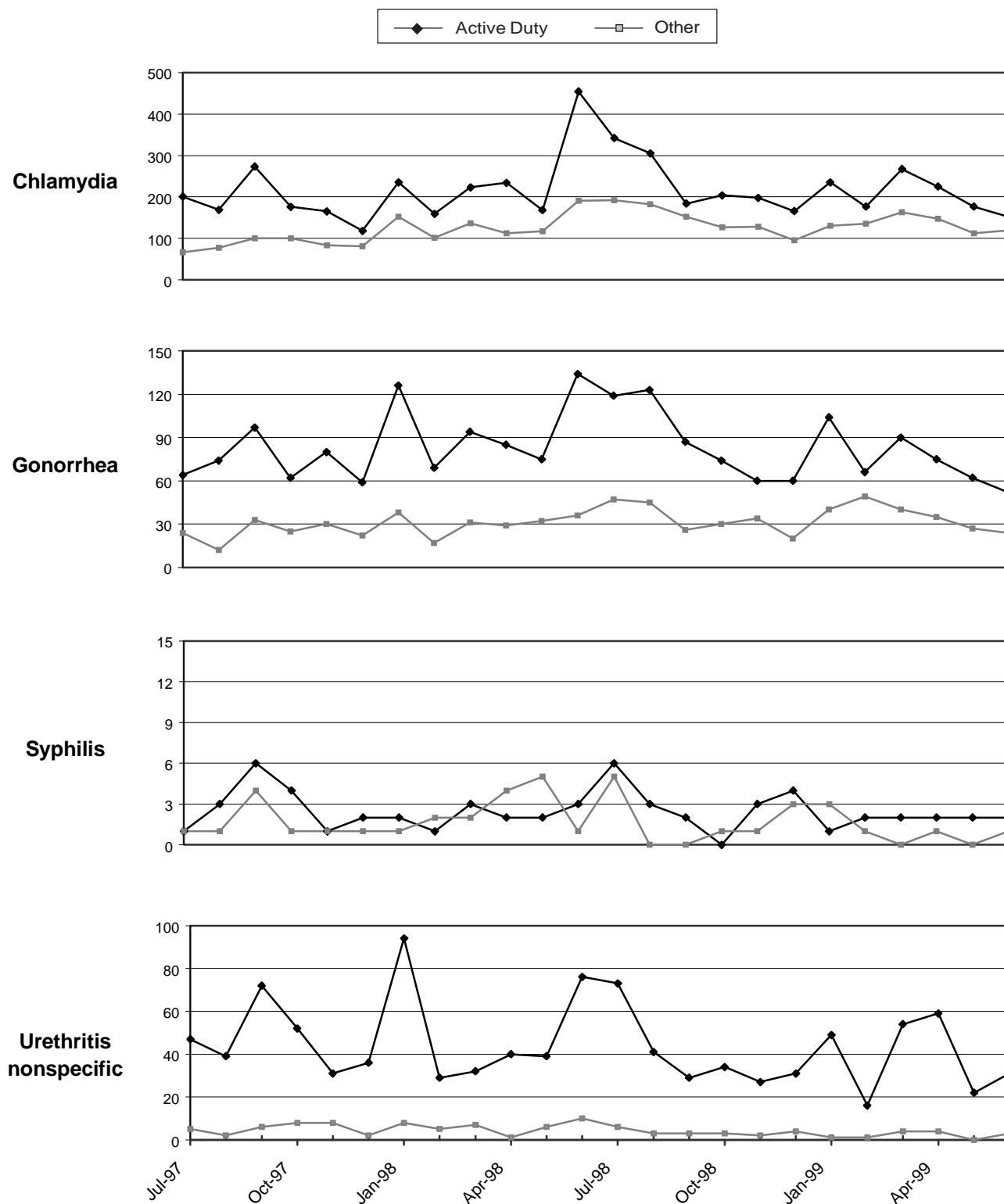
\* Reports are included from main and satellite clinics. Not all sites reporting.

**TABLE II. Reportable sexually transmitted diseases, US Army medical treatment facilities\*  
June, 1999**

Reporting MTF/Post**	Chlamydia		Urethritis non-spec.		Gonorrhea		Syphilis Prim/Sec		Syphilis Latent		Syphilis Tertiary		Syphilis Congenital	
	Cur. Month	Cum. 1999	Cur. Month	Cum. 1999	Cur. Month	Cum. 1999	Cur. Month	Cum. 1999	Cur. Month	Cum. 1999	Cur. Month	Cum. 1999	Cur. Month	Cum. 1999
<b>NORTH ATLANTIC RMC</b>														
Walter Reed AMC	7	45	0	1	2	8	2	3	0	0	0	1	0	0
Aberdeen Prov. Ground, MD	0	8	0	2	0	12	0	0	0	0	0	0	0	0
FT Belvoir, VA	9	63	0	0	1	26	0	0	0	0	0	0	0	0
FT Bragg, NC	23	260	12	82	14	125	0	0	0	0	0	0	0	0
FT Drum, NY	2	60	1	3	4	33	0	0	0	1	0	0	0	0
FT Eustis, VA	10	81	0	0	2	22	0	0	0	0	0	0	0	0
FT Knox, KY	4	91	0	0	0	31	0	0	0	0	0	0	0	0
FT Lee, VA	5	70	0	0	2	18	0	2	0	0	0	0	0	0
FT Meade, MD	5	39	0	0	1	4	0	0	0	0	0	0	0	0
West Point, NY	0	10	0	0	0	1	0	0	0	0	0	0	0	0
<b>GREAT PLAINS RMC</b>														
Brooke AMC	0	75	0	1	0	27	0	0	0	0	0	0	0	0
Beaumont AMC	2	10	0	0	0	10	0	0	0	1	0	0	0	0
FT Carson, CO	34	274	7	44	7	43	0	0	0	0	0	0	0	0
FT Hood, TX	46	260	5	66	6	80	0	3	0	1	0	1	0	0
FT Huachuca, AZ	5	24	0	0	1	2	0	0	0	0	0	0	0	0
FT Leavenworth, KS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FT Leonard Wood, MO	7	46	0	7	1	14	0	1	0	3	0	0	0	0
FT Polk, LA	1	100	0	0	0	16	0	2	0	2	0	0	0	0
FT Riley, KS	18	125	0	0	8	43	0	0	0	0	0	0	0	0
FT Sill, OK	0	74	0	19	0	34	0	0	0	0	0	0	0	0
<b>SOUTHEAST RMC</b>														
Eisenhower AMC	9	92	0	0	0	9	0	0	0	0	0	1	0	0
FT Benning, GA	10	67	0	0	0	48	0	1	0	0	0	0	0	0
FT Campbell, KY	16	141	0	0	11	64	0	0	0	0	0	0	0	0
FT Jackson, SC	20	148	0	0	11	33	0	4	0	1	1	5	0	0
FT McClellan, AL	0	1	0	0	0	0	0	0	0	0	0	0	0	0
FT Rucker, AL	0	20	0	0	0	7	0	0	0	0	0	0	0	0
FT Stewart, GA	0	50	0	68	0	40	0	0	0	0	0	0	0	0
<b>WESTERN RMC</b>														
Madigan AMC	32	214	9	53	5	45	0	1	0	0	0	0	0	0
FT Irwin, CA	1	15	0	0	0	3	0	0	0	0	0	0	0	0
FT Wainwright, AK	0	30	0	0	0	5	0	0	0	0	0	0	0	0
<b>OTHER LOCATIONS</b>														
Tripler	0	138	0	0	0	37	0	0	0	0	0	0	0	0
Europe	0	295	0	1	0	78	0	1	0	1	0	0	0	0
Korea	5	140	0	0	0	7	0	13	0	0	0	0	0	0
<b>Total</b>	<b>271</b>	<b>3066</b>	<b>34</b>	<b>347</b>	<b>76</b>	<b>925</b>	<b>2</b>	<b>31</b>	<b>0</b>	<b>10</b>	<b>1</b>	<b>8</b>	<b>0</b>	<b>0</b>

\* Reports are included from main and satellite clinics.

**FIGURE II. Reportable sexually transmitted diseases, US Army medical treatment facilities\*  
Cases per month, Jul 97 - Jun 99**



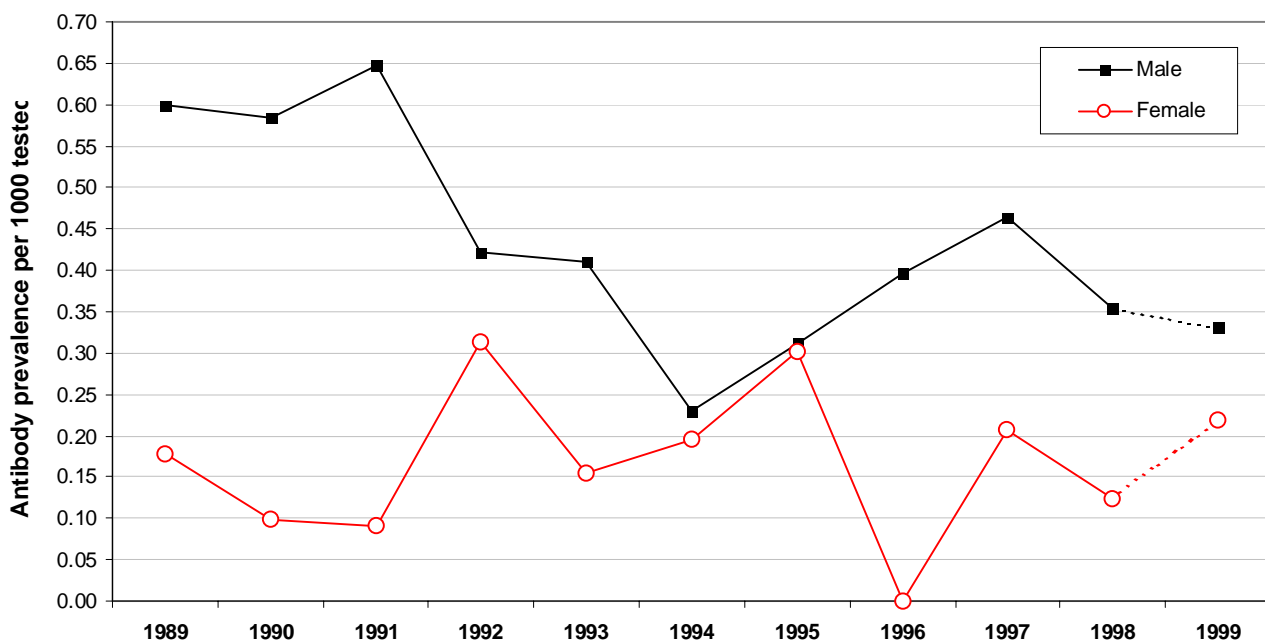
\* Reports are included from main and satellite clinics. Not all sites reporting.



**Table S2. Rates of new diagnoses of HIV-1 infections, Army Reserve, 1985/86 - 1999\***

Year	Total HIV Tests	Total Persons Tested	Males Tested	Females Tested	Total Newly Identified HIV Positives	Newly Identified HIV Positive Males	Newly Identified HIV Positive Females	Total Rate per 1000 tested	Male Rate per 1000 tested	Female Rate per 1000 tested	HIV Positives still active in Reserve
1985/86	6,719	6,530	5,582	948	10	9	1	1.53	1.61	1.05	0
1987	154,310	144,073	117,791	26,282	36	34	2	0.25	0.29	0.08	1
1988	86,733	82,410	66,573	15,837	75	73	2	0.91	1.10	0.13	0
1989	157,772	146,389	118,282	28,107	76	71	5	0.52	0.60	0.18	1
1990	171,459	149,881	119,728	30,153	73	70	3	0.49	0.58	0.10	1
1991	119,125	108,476	86,451	22,025	58	56	2	0.53	0.65	0.09	0
1992	179,469	157,495	125,537	31,958	63	53	10	0.40	0.42	0.31	2
1993	144,498	128,490	102,569	25,921	46	42	4	0.36	0.41	0.15	2
1994	134,689	120,994	95,341	25,653	27	22	5	0.22	0.23	0.19	2
1995	102,370	93,566	73,688	19,878	29	23	6	0.31	0.31	0.30	3
1996	47,717	45,519	35,388	10,131	14	14	0	0.31	0.40	0.00	6
1997	41,639	39,787	30,165	9,622	16	14	2	0.40	0.46	0.21	9
1998	34,643	33,460	25,425	8,035	10	9	1	0.30	0.35	0.12	5
1999	20,850	19,644	15,081	4,563	6	5	1	0.31	0.33	0.22	6
<b>Total</b>	<b>1,401,993</b>	<b>1,276,714</b>	<b>1,017,601</b>	<b>259,113</b>	<b>539</b>	<b>495</b>	<b>44</b>				<b>38</b>

\* through 30 June 1999

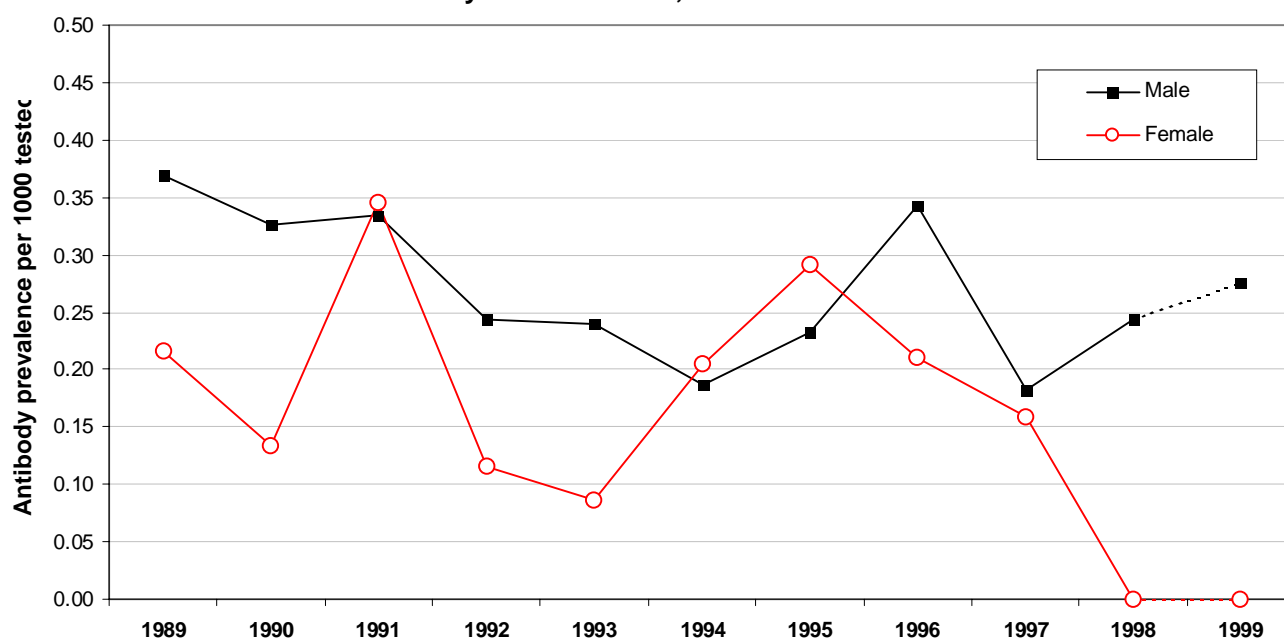
**Figure S2. Rates of new diagnoses of HIV-1 infections, US Army Reserve, 1989 - 1999\***

\* through 30 June 1999

**Table S3. Rates of new diagnoses of HIV-1 infections, Army National Guard, 1985/86 - 1999\***

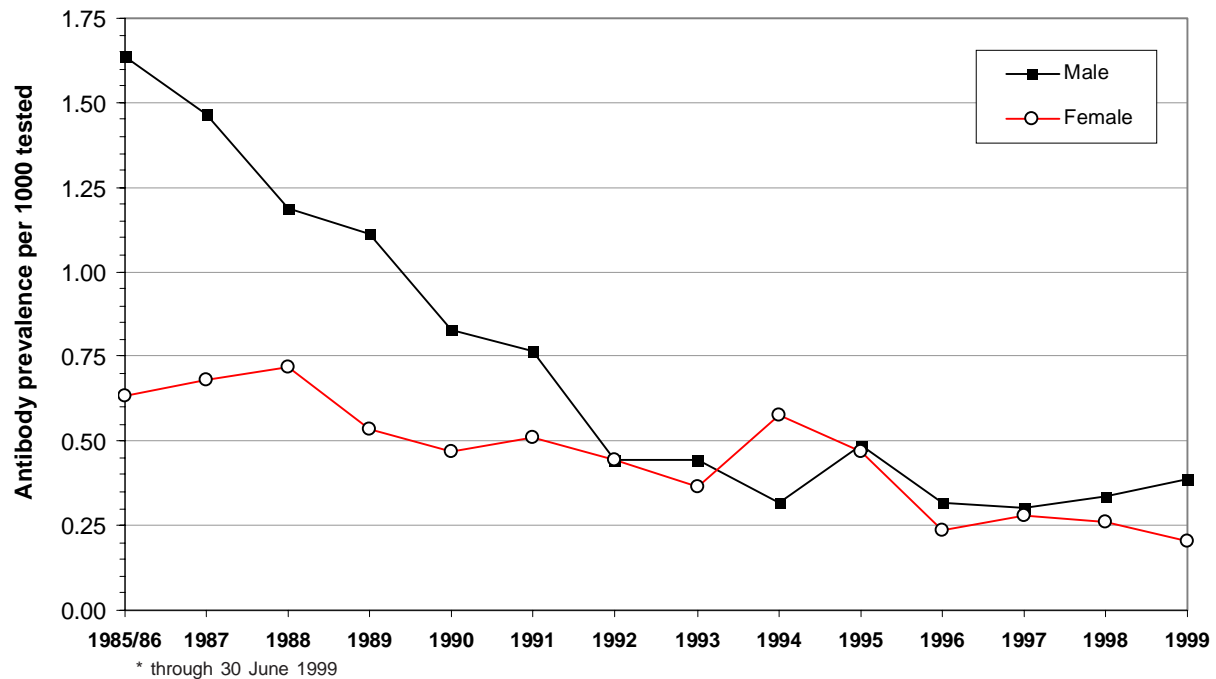
Year	Total HIV Tests	Total Persons Tested	Males Tested	Females Tested	Total Newly Identified HIV Positives	Newly Identified HIV Positive Males	Newly Identified HIV Positive Females	Total Rate per 1000 tested	Male Rate per 1000 tested	Female Rate per 1000 tested	HIV Positives still active in National Guard
1985/86	99,139	97,913	92,823	5,090	33	30	3	0.34	0.32	0.59	2
1987	233,830	225,610	213,911	11,699	38	37	1	0.17	0.17	0.09	0
1988	150,819	145,797	137,313	8,484	46	42	4	0.32	0.31	0.47	6
1989	163,859	158,403	149,166	9,237	57	55	2	0.36	0.37	0.22	2
1990	227,508	211,462	196,548	14,914	66	64	2	0.31	0.33	0.13	0
1991	188,197	176,106	164,528	11,578	59	55	4	0.34	0.33	0.35	3
1992	249,457	234,302	217,074	17,228	55	53	2	0.23	0.24	0.12	0
1993	166,877	157,935	146,280	11,655	36	35	1	0.23	0.24	0.09	2
1994	198,497	185,801	171,180	14,621	35	32	3	0.19	0.19	0.21	6
1995	145,596	139,103	128,816	10,287	33	30	3	0.24	0.23	0.29	6
1996	59,994	57,376	52,609	4,767	19	18	1	0.33	0.34	0.21	4
1997	69,730	66,806	60,504	6,302	12	11	1	0.18	0.18	0.16	5
1998	75,455	72,439	65,648	6,791	16	16	0	0.22	0.24	0.00	10
1999	50,151	47,876	43,465	4,411	12	12	0	0.25	0.28	0.00	12
<b>Total</b>	<b>2,079,109</b>	<b>1,976,929</b>	<b>1,839,865</b>	<b>137,064</b>	<b>517</b>	<b>490</b>	<b>27</b>				<b>58</b>

\* through 30 June 1999

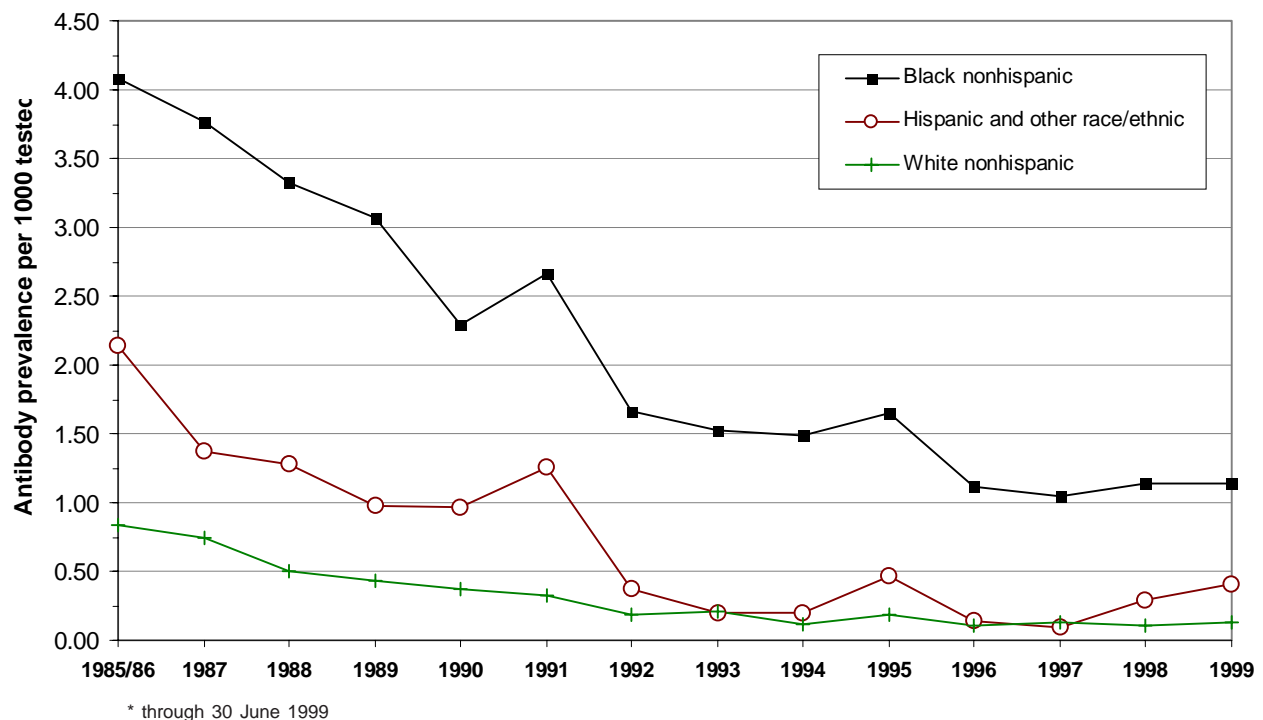
**Figure S3. Rates of new diagnoses of HIV-1 infections, Army National Guard, 1989 - 1999\***

\* through 30 June 1999

**Figure S4. Prevalence of antibody to HIV-1, civilian applicants for US military service, by gender and year of screening, 1985/86 - 1999\***



**Figure S5. Prevalence of antibody to HIV-1, civilian applicants for US military service, by race/ethnicity and year of screening, 1985/86 - 1999\***



*Continued from page 2*

**Reserve components:** Tables S2, S3 (pages 8 and 9) and figures S2, S3 (pages 8 and 9) summarize recent HIV-1 screening results among members of the Army Reserve and National Guard. Among soldiers of the Army Reserve, the rates of HIV-1 diagnoses in 1998 and the first half of 1999 (0.30 and 0.31 per 1000, respectively) was lower than the rate the previous year but consistent with rates the previous five years. Similarly, recent HIV-1 rates among Army National Guard members continued the generally flat trend since 1992.

**Civilian applicants for military service:** Since October 1985, 4,378 civilian applicants for military service have been diagnosed with HIV-1 infections during preinduction medical examinations. The overall prevalence of HIV-1 infections among appli-

cants in 1998 and the first half of 1999 was 0.33 per 1000. The prevalence in the most recent 18 months was remarkably similar to prevalences in the previous two years. Prevalences in recent years are approximately one-fifth of those when routine testing of civilian applicants began (in 1985-6).

Since 1992, prevalences of HIV-1 among male and female applicants for military service have been remarkably similar (figure S4). Finally, while prevalences of HIV-1 have dramatically declined in all race/ethnicity-defined subgroups, prevalences among black nonhispanic applicants have consistently exceeded those among white nonhispanic and hispanic and other ethnicity-defined subgroups (figure S5).

**Table S4. HIV-1 tests, US Army Active duty, Reserve, and National Guard, 1998**

<u>Test purpose</u>	<u>Active Duty</u>	<u>Reserve</u>	<u>National Guard</u>	<u>Total</u>
<b>Clinical / STD</b>	15,002	635	712	16,349
<b>Force testing</b>	246,842	26,865	35,401	309,108
<b>Physical exam</b>	37,591	6,644	39,022	83,257
<b>Other / unknown</b>	29,882	499	320	30,701
<b>Total tests</b>	<b>329,317</b>	<b>34,643</b>	<b>75,455</b>	<b>439,415</b>
<b>Total persons tested</b>	<b>275,895</b>	<b>33,460</b>	<b>72,439</b>	<b>381,794</b>
<b>Number positive</b>	<b>59</b>	<b>10</b>	<b>16</b>	<b>85</b>
<b>Prevalence per 1000</b>	<b>0.21</b>	<b>0.30</b>	<b>0.22</b>	<b>0.22</b>

### Outbreak Investigation

## **Acute Pulmonary Histoplasmosis Associated with Cleanup of a Dumpsite, US Soldiers, Fort Sherman, Panama, April-May 1999**

From 26-29 April 1999, approximately twenty US soldiers from the Jungle Operations Training Center (JOTC), Fort Sherman, Panama, participated in the cleanup of an old dumpsite on the installation. The cleanup was conducted to prepare for the cessation of jungle training and the turnover of the installation to the Panamanian Government. Among other things, the soldiers involved in the cleanup removed old 55-gallon barrels (contents unknown), footlockers, beakers, and flasks. Between 7 and 9 May (8-13 days after exposure to the dump), seven soldiers who had been on the cleanup team reported with flu-like illnesses to the Howard Air Force Base Family Practice Clinic. Initial symptoms included low-grade fever, sweating, chest pain, shortness of breath, headache, and persistent, non-productive cough. Two patients with bilateral patchy lung infiltrates and hilar adenopathy were referred to a civilian medical center in Panama City, Panama, and one soldier was hospitalized in Louisiana. Silver stain of a tissue sample taken during bronchoscopy of one of the patients revealed *Histoplasma*. To date, all test results related to the two other hospitalized patients are negative. Acute and convalescent serum pairs were collected to assess serologic responses to *H. capsulatum*.

Public health workers from Howard Air Force Base conducted an investigation to determine the nature and extent of the outbreak. Eleven members of the cleanup team had departed Panama by the time of the investigation. Seven of the nine remaining members of the team (six of whom were symptomatic, 2 hospitalized) participated in interviews.

The implicated dumpsite was on the Fort Sherman installation, within 50-100 meters of a road and approximately 2-3 kilometers deep in the jungle. Wildlife, especially howler monkeys and

birds, were abundant in the area. The soil at the site was loosely packed and covered with decaying vegetation. The ground was damp on the day of the inspection, but dust was easily generated when the soil was disturbed.

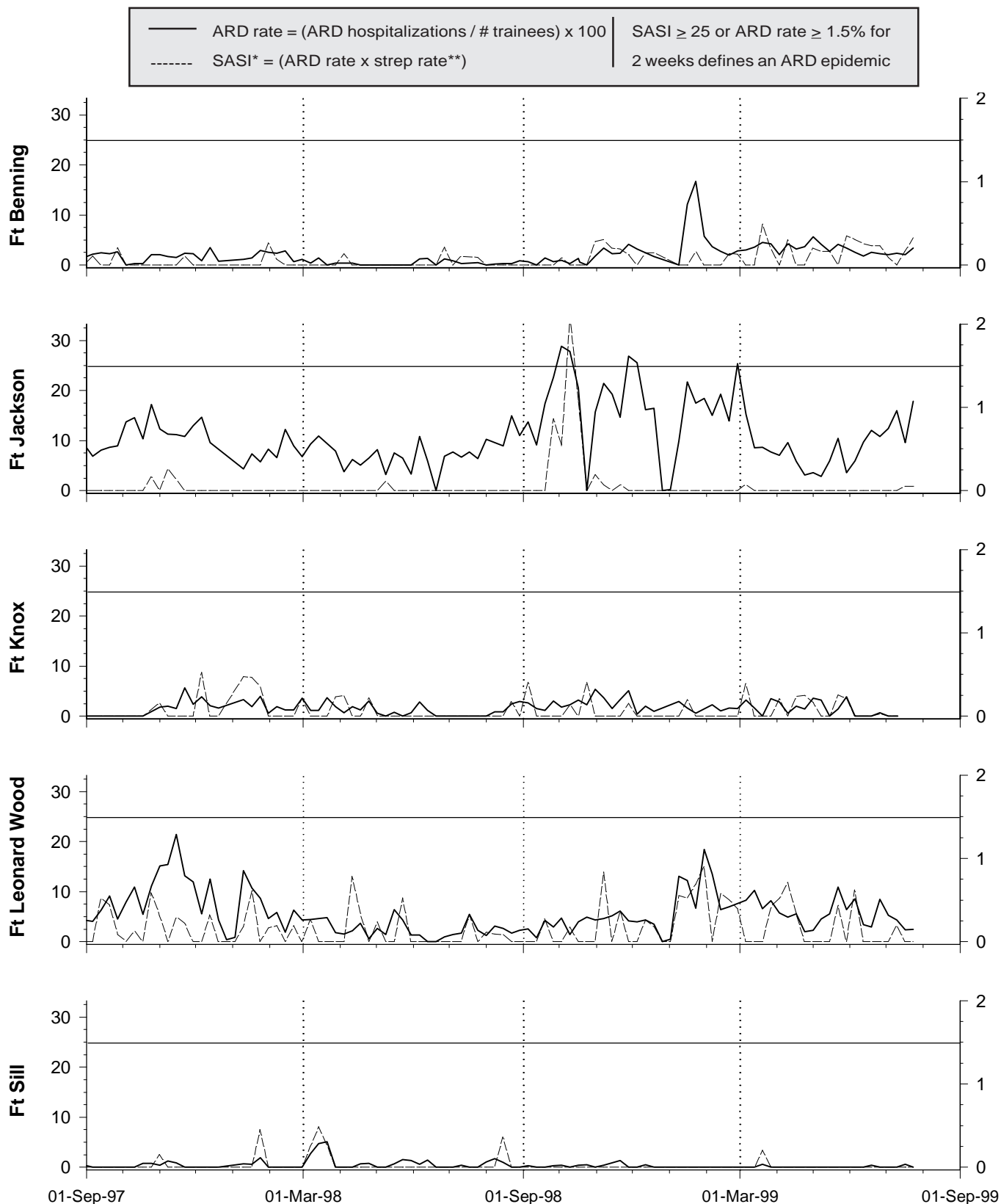
Soldiers on the cleanup team wore leather gloves but no respiratory protective equipment and no other protective clothing. Soldiers reported "dumping the barrels" of their unknown contents prior to removing them from the site. Panamanian workers moved all of the beakers, flasks, footlockers, and many of the barrels off the installation (the materials were not retrievable or available for inspection). Barrels that remained at the site were described as old, rusted, 55-gallon "half" barrels. They were empty except for varying amounts of decaying vegetation.

**Editorial comments:** Although some clinical and environmental laboratory results are pending, the most likely diagnosis based on exposure histories, presenting signs and symptoms, and laboratory and clinical findings appears to be acute pulmonary histoplasmosis. The range of incubation times related to the cases strongly suggests that the outbreak was associated with widespread exposure of cleanup team members to high breathing zone concentrations of *Histoplasma capsulatum*.

Histoplasmosis is well known to be endemic in Panama.<sup>1</sup> Doctor Samuel Darling was the first to describe the disease in 1905 from a case seen in the Panama Canal Zone.<sup>2</sup> For decades, sporadic cases and occasional outbreaks have been linked to exposures in bat-infested caves, old fortifications, and bunker sites.<sup>3</sup> Bat guano, bird feces, and contaminated soils contain conidia (spore forms) of *H. capsulatum* that are infective to humans.<sup>4</sup> While most *H. capsulatum* infections are asymptomatic, acute infections may produce fever, weakness,

*Continued on page 14*

**Figure III. Acute respiratory disease (ARD) surveillance update  
US Army initial entry training centers**



\* SASI (Strep ARD Surveillance Index) is a reliable predictor of serious strep-related morbidity

\*\* Strep rate = (Group A beta-hemolytic strep(+) / # cultures) x 100

*Continued from page 12*

chest pain, non-productive cough and, eventually, lung calcifications.<sup>5</sup> Severe disease, which can lead to death, is rare, particularly among previously healthy young adults.

It is noteworthy that previously existent Army industrial hygiene support was withdrawn from Panama in 1997 shortly before the closure of Gorgas Army Hospital. Since then, medical resources at Howard Air Force Base have provided limited industrial hygiene support to US military installations in the Canal area. In relation to this outbreak, there were no requests for Air Force assistance in planning the dumpsite cleanup. If a pre-cleanup inspection had been conducted, it may have revealed the contamination of the site and the need for control measures such as spraying of the area with water or oil to reduce dust (and in turn chemical agent and spore inhalation); use of protective masks, preferably respirators, by cleanup team members; decontamination of the area (as with 3% formalin solution) prior to cleanup;<sup>6,7</sup> and special handling and disposition procedures for potential chemical contaminants. Policy guidance for base realignment and closure (BRAC) operations in the continental United States are well defined in relation to site inspection, evaluation, and cleanup procedures. Policies regarding closures of installations outside the US are specified in status-of-forces agreements (SOFA) between the US and individual host countries.

*Report and comments provided by Captain Langsten, Master Sergeant James, Senior Airman Rigdon (Public Health Flight), Technical Sergeant Jones (Bioenvironmental Engineering Section), Major Burkitt, Doctor Phermsangnam (Family Practice Clinic), Howard Air Force Base, Panama; Major Hinten, Lieutenant Colonel Gibson (IERA/RSRH), Brooks Air Force Base, San Antonio, Texas; Major Purcell (Infectious Diseases Service), Brooke Army Medical Center, Fort Sam Houston, Texas; and Colonel Sanchez (Epidemiology Program), US Army Center for Health Promotion and Preventive Medicine (USACHPPM).*

#### References

1. Ajello, L. Occurrence of *Histoplasma capsulatum* and other human pathogenic molds in Panamanian soil. *Am J Trop Med Hyg*, 1954, 3, 897-904.
2. Darling, ST. A protozoan general infection producing pseudotubercles in the lungs and focal necroses in the liver, spleen and lymph nodes. *JAMA*, 1906, 46, 1283-5.
3. Larrabee, WF, Ajello, L, Kaufman, L. An epidemic of histoplasmosis on the Isthmus of Panama. *Am J Trop Med Hyg*, 1978, 27, 281-5.
4. Diercks, FH, Shacklette, MH, Kelley, HB, Klite, PD, Thompson, SW, Keenan, CM. Naturally occurring histoplasmosis among 935 bats collected in Panama and the Canal Zone, July 1961-February 1963. *Am J Trop Med Hyg*, 1965, 14:6, 1069-72.
5. Wheat, J. Histoplasmosis. In: *Infectious Diseases*. Gorbach, SL, Bartlett, JG, Blacklow, NR (eds.). W.B. Saunders Company, Philadelphia, 1998, 2335-2344.
6. Tosh, FE. Histoplasmosis Control: Decontamination of Bird Roosts, Chicken Houses, and Other Point Sources. U.S. Department of Health Education and Welfare, CDC Publication No. 00-3021.
7. Tosh, FE, Weeks, RJ, Pfeiffer, FR, et al. The use of formalin to kill *Histoplasma capsulatum* at an epidemic site. *Am J Epidemiol*, 1967, 85, 259-65.

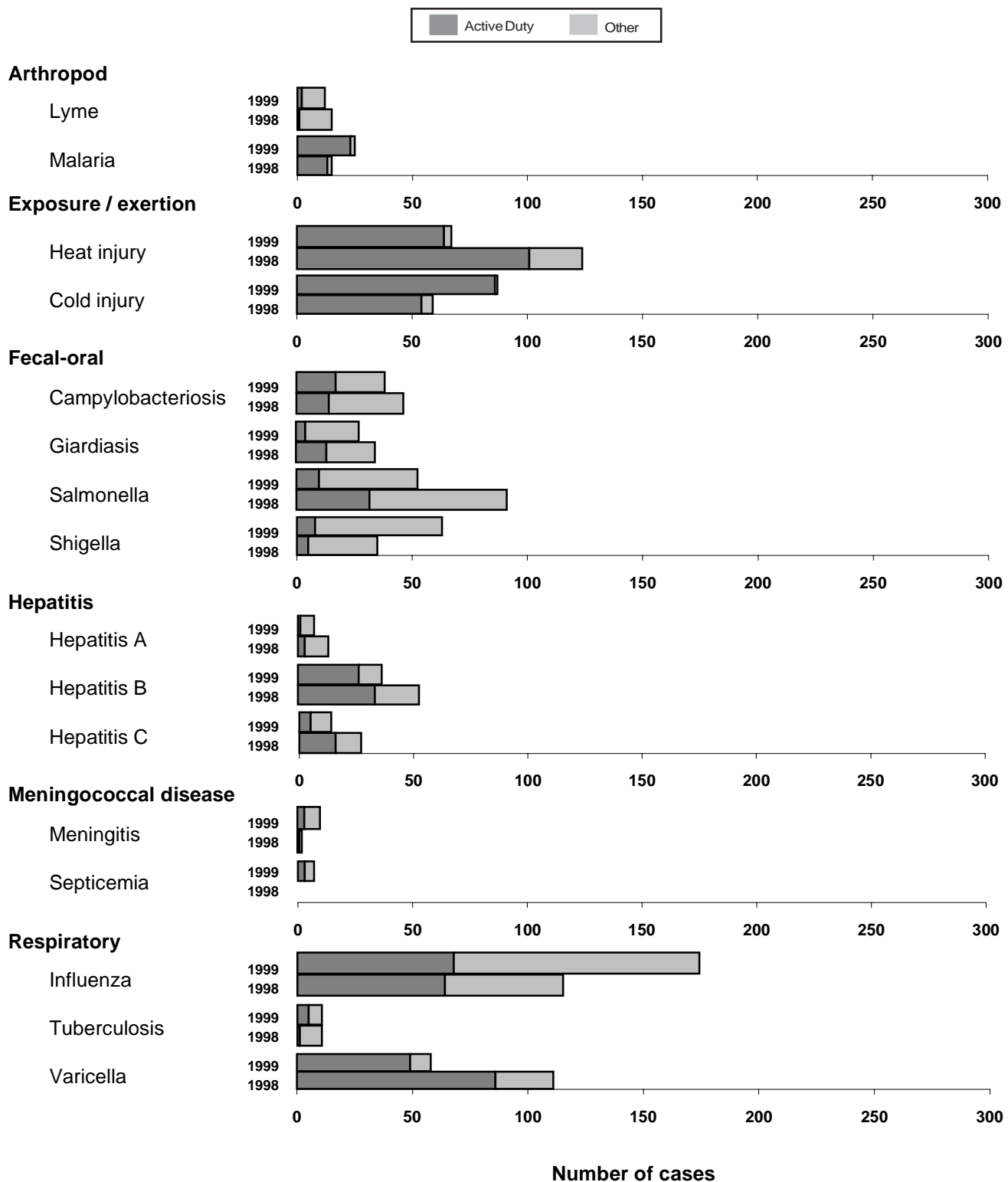
*Supplement #2***TABLE S5. Quarterly Update, Reportable Medical Events System, Jan-Jun 1999\***

Diagnosis	1st Quarter	2nd Quarter	Total	Diagnosis	1st Quarter	2nd Quarter	Total
Amebiasis	1	0	1	Listeriosis	0	0	0
Anthrax	0	0	0	Lyme disease	2	10	12
Biological warfare agent exp.	0	0	0	Malaria, falciparum	2	1	3
Botulism	0	0	0	Malaria, malariae	0	0	0
Brucellosis	0	0	0	Malaria, ovale	1	0	1
Campylobacteriosis	21	17	38	Malaria, unspecified	1	1	2
Carbon monoxide poisoning	0	0	0	Malaria, vivax	5	14	19
Chemical agent exposure	0	0	0	Measles	0	2	2
Chlamydia	1901	1155	3056	Mening., meningitis	6	4	10
Cholera	0	0	0	Mening., septicemia	3	4	7
Coccidioidomycosis	1	1	2	Mumps (adults only)	0	0	0
CWI, frostbite	67	1	68	Pertussis	3	0	3
CWI, hypothermia	11	0	11	Plague	0	1	1
CWI, immersion type	6	0	6	Pneumococcal pneum.	10	4	14
CWI, unspecified	2	0	2	Poliomyelitis	0	0	0
Cryptosporidiosis	1	0	1	Q fever	0	0	0
Cyclospora	0	0	0	Rabies, human	0	0	0
Dengue fever	0	1	1	Relapsing fever	0	0	0
Diphtheria	0	0	0	Rheumatic fever	0	0	0
E Coli 0157:H7	1	3	4	Rift Valley Fever	0	0	0
Ehrlichiosis	0	1	1	RMSF	0	0	0
Encephalitis	0	0	0	Rubella	3	0	3
Filariasis	0	1	1	Salmonellosis	20	33	53
Giardiasis	15	12	27	Schistosomiasis	0	0	0
Gonorrhea	585	316	901	Shigellosis	10	53	63
H. influenzae, invasive	1	1	2	Streptococcus, group A inv.	1	0	1
Hantavirus infection	0	1	1	Syphilis, congenital	0	0	0
Heat exhaustion	7	28	35	Syphilis, latent	7	3	10
Heat stroke	5	27	32	Syphilis, prim/sec	17	14	31
Hemorrhagic fever	0	0	0	Syphilis, tertiary	6	2	8
Hepatitis A, acute	2	5	7	Tetanus	0	0	0
Hepatitis B, acute	31	5	36	Toxic shock syndrome	0	0	0
Hepatitis C, acute	12	2	14	Trichinellosis	0	0	0
Influenza	171	9	180	Trypanosomiasis	0	0	0
Lead poisoning	0	0	0	Tuberculosis, pulmonary	8	3	11
Legionellosis	1	1	2	Tularemia	0	0	0
Leish, cutaneous	1	0	1	Typhoid fever	0	0	0
Leish, mucocutaneous	0	0	0	Typhus fever	0	0	0
Leish, unspecified	0	0	0	Urethritis, non-specific	211	139	350
Leish, visceral	0	0	0	Vaccine advrs event	6	1	7
Leprosy	0	0	0	Varicella, adult only	43	15	58
Leptospirosis	0	0	0	Yellow fever	0	0	0
<b>Total</b>					<b>3208</b>	<b>1891</b>	<b>5099</b>

\* Based on date of onset.

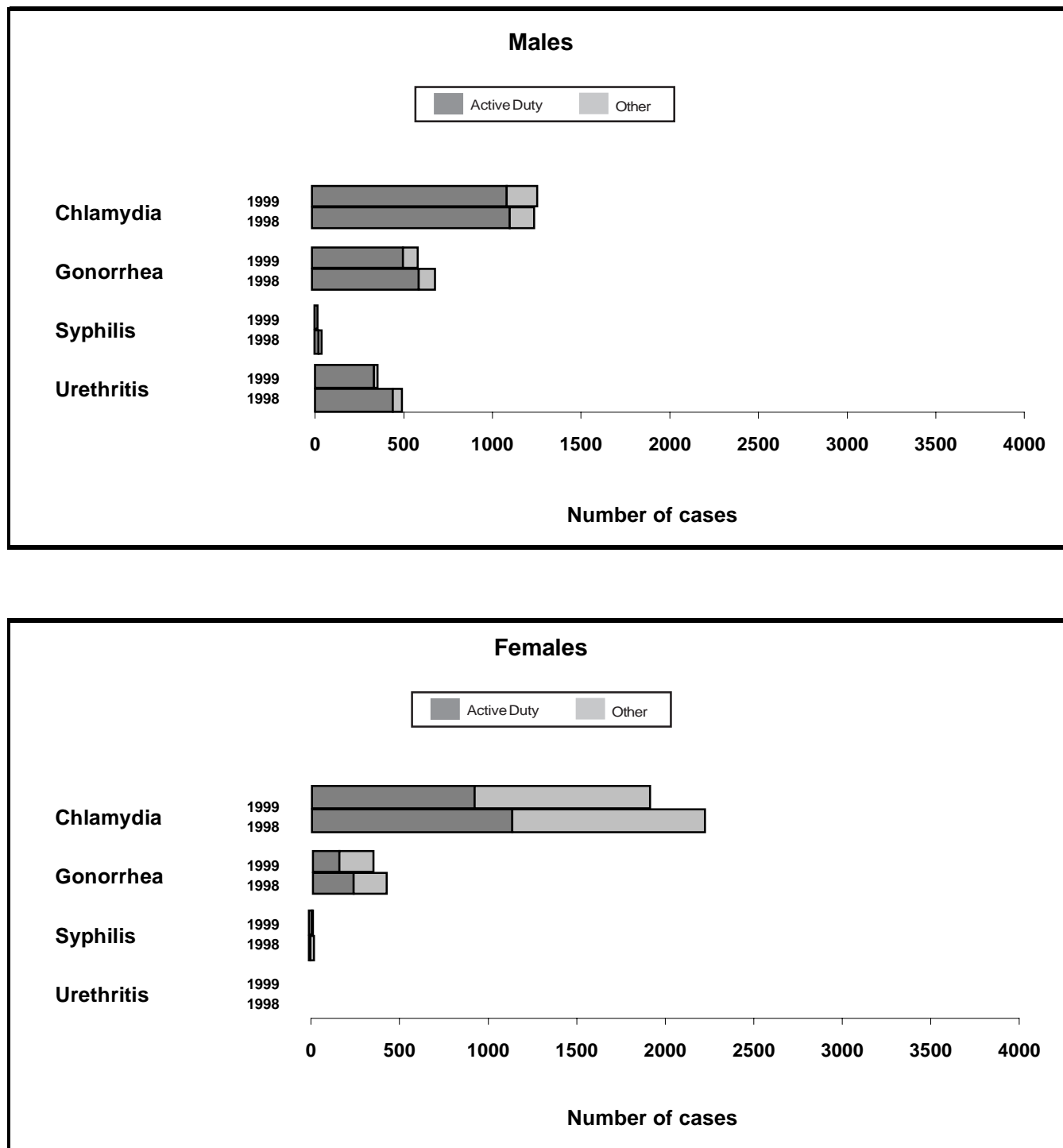


**FIGURE S6. Sentinel reportable events, United States Army\***  
**Comparison of first six months of calendar years 1998 and 1999**



\* Based on date of onset.

**FIGURE S7. Sentinel reportable STDs, United States Army\***  
**Comparison of first six months of calendar years 1998 and 1999, by gender**



\* Based on date of onset.

**TABLE S6. Active duty force strength by MTF, United States Army, March, 1999\***

MTF/Post**	Males							Females							All
	< 20	20-24	25-29	30-34	35-39	>= 40	Total M	< 20	20-24	25-29	30-34	35-39	>= 40	Total F	
NORTH ATLANTIC RMC															
Walter Reed AMC	160	2182	1976	1710	1799	3071	10898	36	527	682	515	527	609	2896	13794
Aberdeen Prov. Ground, MD	591	604	282	351	402	367	2597	88	110	84	58	50	39	429	3026
FT Belvoir, VA	12	201	313	314	306	382	1528	5	82	135	82	83	70	457	1985
FT Bragg, NC	2253	11943	8762	6389	4267	2346	35960	320	1776	1281	701	476	243	4797	40757
FT Drum, NY	921	3889	2498	1420	1026	480	10234	123	481	258	162	96	54	1174	11408
FT Eustis, VA	740	1640	1321	1009	928	795	6433	156	498	338	203	177	108	1480	7913
FT Knox, KY	1566	3248	1700	1393	1412	859	10178	56	241	193	131	105	70	796	10974
FT Lee, VA	584	894	680	583	479	370	3590	391	452	278	190	134	82	1527	5117
FT Meade, MD	94	712	985	938	721	841	4291	50	295	326	223	179	160	1233	5524
West Point, NY	21	256	265	590	509	553	2194	5	64	69	110	84	70	402	2596
GREAT PLAINS RMC															
Brooke AMC	410	747	958	1020	815	940	4890	280	357	417	351	298	306	2009	6899
Wm Beaumont AMC	608	2425	1813	1305	1150	1131	8432	144	677	464	218	165	151	1819	10251
FT Carson, CO	860	4799	3615	2214	1594	883	13965	161	801	497	251	190	96	1996	15961
FT Hood, TX	2336	13621	9255	5714	3928	2283	37137	458	2546	1603	918	662	354	6541	43678
FT Huachuca, AZ	446	1041	972	724	578	429	4190	145	382	241	114	122	109	1113	5303
FT Leavenworth, KS	41	272	237	508	850	569	2477	21	99	66	72	99	56	413	2890
FT Leonard Wood, MO	1152	1670	1082	1024	853	473	6254	297	473	287	188	127	70	1442	7696
FT Polk, LA	453	2570	1724	1296	804	387	7234	78	465	264	167	98	62	1134	8368
FT Riley, KS	889	3851	2349	1356	916	488	9849	87	495	262	150	99	55	1148	10997
FT Sill, OK	1492	4056	2641	1715	1289	762	11955	119	478	318	193	124	76	1308	13263
Panama	15	344	404	395	324	270	1752	5	44	57	27	23	11	167	1919
SOUTHEAST RMC															
Eisenhower AMC	1423	1935	1488	1190	1216	1210	8462	317	645	487	342	343	239	2373	10835
FT Benning, GA	3118	5658	3379	2057	1445	766	16423	135	531	389	235	174	68	1532	17955
FT Campbell, KY	1431	7579	5771	3589	2449	1145	21964	199	1086	730	406	236	108	2765	24729
FT Jackson, SC	1302	1698	898	938	755	474	6065	894	934	500	325	209	102	2964	9029
FT McClellan, AL	684	701	489	495	505	403	3277	258	279	165	118	103	60	983	4260
FT Rucker, AL	120	639	1061	643	492	431	3386	80	226	156	71	52	36	621	4007
FT Stewart, GA	1107	6432	4417	2625	1888	981	17450	221	1097	763	408	248	137	2874	20324
WESTERN RMC															
Madigan AMC	982	5240	3838	2555	1869	1298	15782	182	884	645	358	244	212	2525	18307
FT Irwin, CA	205	1425	984	763	563	276	4216	29	183	138	80	54	28	512	4728
FT Wainwright, AK	409	1987	1745	932	579	295	5947	82	317	257	128	104	51	939	6886
OTHER LOCATIONS															
Tripler AMC	739	4159	3556	2065	1567	912	12998	137	810	738	403	269	195	2552	15550
Europe	829	13270	12459	8016	5788	3978	44340	222	2646	2097	1208	853	592	7618	51958
Korea	507	5235	4183	3117	2678	1833	17553	159	1000	778	495	389	232	3053	20606
Other/Unknown	887	2795	4331	6986	5980	4095	25074	332	761	806	797	673	401	3770	28874§
Total	29387	119718	92431	67939	52724	36776	398975	6272	22742	16769	10398	7869	5312	69362	468367

\* Based on duty zip code. Does not account for TDY.

§ Includes unknown age groups and unknown gender.

\*\* Includes any subordinate catchment areas not listed separately.

Source: Defense Manpower Data Center (DMDC)



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